NewsRelease

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UNIQUE WIND TUNNEL REVOLUTIONIZED AERONAUTICAL TESTING
NASA'S NATIONAL TRANSONIC FACILITY TURNS 20

It has always been a challenge to test scale models in wind tunnels and approximate actual flight conditions, especially at speeds that approach and exceed the speed of sound (Mach 1). To get accurate test results, models had to be big, meaning bigger tunnels; the pressure in the tunnel had to increase substantially, which could cause unwanted distortion of the models; or the tunnel's temperature had to decrease substantially. Until the National Transonic Facility (NTF) opened, the feasibility of a tunnel that could accomplish those conditions was not practical.

Researchers at NASA's Langley Research Center, Hampton, Va., designed and developed a new type of cryogenic (low-temperature) tunnel that would give the scientists the conditions they needed to test the new generation of aircraft.

NASA's National Transonic Facility celebrates its twentieth year of operation on December 6, 2003. Construction of the NTF began in 1979. Vice President George Bush attended the ribbon-cutting ceremony opening the facility in 1983.

Media Opportunity: Members of the media who would like the rare opportunity to tour the NTF and speak to researchers on Thursday afternoon, December 4, should contact Bill Uher at (757) 864-3189 or 344-6811 (mobile) to arrange for credentials.

The 497-foot-long, 230,000 cubic foot tunnel is constructed of over half a million pounds of aluminum and stainless steel. Powered by a 135,000 horsepower turbine motor and cooled by liquid nitrogen, the NTF can achieve velocities of Mach 1.2 at 120 pounds of pressure per square inch and run at temperatures between –250 and +150 degrees Fahrenheit.

Some notable vehicles tested in the NTF include: Boeing 777, Space Shuttle and Booster, Boeing 767, Blended Wing Body designs including the B-2 Bomber, A-6 Intruder and the F-18 Hornet.

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